

## Cisco SFE2000 24-Port 10/100 Ethernet Switch

### Cisco Small Business Managed Switches

Secure, Flexible Switches for Small Business Network Foundations

#### Highlights

- Designed for small businesses that require speed, flexibility, and performance
- Resilient clustering provides the ability to manage several switches as a single switch to support growing businesses
- QoS helps ensure a consistent network experience and supports networked applications including voice, video, and data storage
- Strong security protects network traffic to keep unauthorized users off the network

**Figure 1.** Cisco SFE2000 24-Port 10/100 Ethernet Switch



#### Product Overview

The Cisco® SFE2000 24-Port 10/100 Ethernet Switch (Figure 1) is optimized to maximize system availability, with fully redundant stacking, redundant power options, and dual images for resilient firmware upgrades. The Cisco SFE2000 is able to secure the network through IEEE 802.1Q VLANs, IEEE 802.1X port authentication, access control lists (ACLs), denial-of-service (DoS) prevention, and MAC-based filtering. The enhanced QoS and traffic management features help ensure clear and reliable voice and video communications.

The Cisco SFE2000 provides an intuitive, secure management interface, enabling you to better utilize the switch's comprehensive feature set, resulting in a better-optimized, more secure network.

#### Features

- Twenty-four 10/100 Ethernet ports plus four 10/100/100 copper ports
- Two Small Form-Factor Pluggable (SFP) slots (shared with two copper ports) for fiber Gigabit Ethernet expansion

- Dual images for resilient firmware upgrades
- Up to 12.8-Gbps nonblocking, store-and-forward switching capacity
- Simplified quality of service (QoS) management using 802.1p, Differentiated Services (DiffServ), or type of service (ToS) traffic prioritization specifications
- Power redundancy when used with the Cisco RPS1000 380W Redundant Power Supply Unit
- Fully resilient stacking provides optimized growth with simplified management
- ACLs for granular security and QoS implementation
- Can be configured and monitored from a standard web browser
- Secure remote management of the switch via Secure Shell (SSH) and Secure Sockets Layer (SSL) encryption
- 802.1Q-based VLANs enable segmentation of networks for improved performance and security
- Private VLAN Edge (PVE) for simplified network isolation of guest connections or autonomous networks
- Automatic configuration of VLANs across multiple switches through Generic VLAN Registration Protocol (GVRP) and Generic Attribute Registration Protocol (GARP)
- User/network port-level security via 802.1X authentication and MAC-based filtering
- Increased bandwidth and added link redundancy with link aggregation
- Enhanced rate-limiting capabilities, including back pressure, multicast, and broadcast flood control
- Port mirroring for noninvasive monitoring of switch traffic
- Mini jumbo frame support (1600 bytes)
- Simple Network Management Protocol (SNMP) v1, v2c, v3 and Remote Monitoring (RMON) support
- Fully rack-mountable using the included rack-mounting hardware
- Simple, one-step automated installation and initial configuration

## Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SFE2000P 24-Port 10/100 Ethernet Switch.

**Table 1.** Specifications for the Cisco SFE2000 24-Port 10/100 Ethernet Switch

Specifications	
<b>Ports</b>	<ul style="list-style-type: none"> <li>• 24 RJ-45 connectors for 10BASE-T/100BASE-TX</li> <li>• Four 10BASE-T/100BASE-TX/1000BASE-T with 2 Gigabit combo ports</li> <li>• Shared between mini Gigabit Interface Converter (mini-GBIC) ports</li> <li>• Console port</li> <li>• Auto medium dependent interface (MDI) and MDI crossover (MDI-X)</li> <li>• Auto negotiate/manual setting</li> <li>• RPS port for connecting to redundant power supply unit</li> </ul>
<b>Buttons</b>	Reset button
<b>Cabling type</b>	Unshielded twisted pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX, UTP Category 5 Ethernet or better for 1000BASE-T
<b>LEDs</b>	PWR, Fan, Link/Act, Speed, RPS, Master, Stack ID 1 through 8

<b>Performance</b>	
<b>Switching capacity</b>	Up to 12.8 Gbps, nonblocking
<b>Forwarding rate (based on 64-byte packets)</b>	Up to 9.5 mpps
<b>Stacking</b>	
<b>Stack operation</b>	<ul style="list-style-type: none"> <li>• Up to 8 units in a stack (192 ports)</li> <li>• Hot insertion and removal</li> <li>• Ring and chain stacking options</li> <li>• Master and backup master for resilient stack control</li> <li>• Auto-numbering or manual configuration of units in stack</li> </ul>
<b>Layer 2</b>	
<b>MAC table size</b>	8000
<b>Number of VLANs</b>	256 active VLANs (4096 range)
<b>VLAN</b>	<ul style="list-style-type: none"> <li>• Port-based and 802.1Q tag-based VLANs</li> <li>• Protocol-based VLAN</li> <li>• Management VLAN</li> <li>• Private VLAN Edge (PVE)</li> <li>• GVRP</li> </ul>
<b>Head-of-line (HOL) blocking</b>	HOL blocking prevention
<b>Layer 3</b>	
<b>Layer 3 options</b>	<ul style="list-style-type: none"> <li>• Static routing</li> <li>• Classless interdomain routing (CIDR)</li> <li>• 128 static routes</li> <li>• IPv4</li> <li>• Forwarding in silicon-wire-speed forwarding of Layer 3 traffic</li> </ul>
<b>Management</b>	
<b>Web user interface</b>	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)
<b>SNMP</b>	SNMP version 1, 2c, 3 with support for traps
<b>SNMP MIBs</b>	<ul style="list-style-type: none"> <li>• RFC1213 MIB-2, RFC2863 interface MIB, RFC2665 Ether-like MIB</li> <li>• RFC1493 Bridge MIB, RFC2674 Extended Bridge MIB (P-bridge, Q-bridge)</li> <li>• RFC2819 RMON MIB (groups 1, 2, 3, 9 only), RFC2737 entity MIB</li> <li>• RFC3621 Power Ethernet MIB, RFC 2618 RADIUS client MIB, RFC 1215 traps</li> </ul>
<b>RMON</b>	Embedded RMON software agent supports four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
<b>Firmware upgrade</b>	<ul style="list-style-type: none"> <li>• Web browser upgrade (HTTP) and Trivial File Transfer Protocol (TFTP)</li> <li>• Dual images for resilient firmware upgrades</li> </ul>
<b>Port mirroring</b>	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe
<b>Other Management</b>	<ul style="list-style-type: none"> <li>• Traceroute</li> <li>• Single IP management</li> <li>• SSL security for web user interface</li> <li>• SSH</li> <li>• RADIUS</li> <li>• Port mirroring</li> <li>• TFTP upgrade</li> <li>• Dynamic Host Configuration Protocol (DHCP) client</li> <li>• BOOTP</li> <li>• Simple Network Time Protocol (SNTP)</li> <li>• Xmodem upgrade</li> <li>• Cable diagnostics</li> <li>• Ping</li> <li>• Syslog</li> <li>• Telnet client (SSH secure support)</li> </ul>
<b>Security</b>	

<b>IEEE 802.1X</b>	<ul style="list-style-type: none"> <li>• 802.1X - RADIUS authentication; MD5 hash</li> <li>• Guest VLAN</li> <li>• Single/multiple host mode</li> </ul>
<b>Access control</b>	<ul style="list-style-type: none"> <li>• ACLs - drop or rate limit based on: <ul style="list-style-type: none"> <li>◦ Source and destination MAC-based</li> <li>◦ Source and destination IP address</li> <li>◦ Protocol</li> <li>◦ Port</li> <li>◦ VLAN</li> <li>◦ Differentiated services code point (DSCP)/IP precedence</li> <li>◦ TCP/ User Datagram Protocol (UDP) source and destination ports</li> <li>◦ 802.1p priority</li> <li>◦ Ethernet type</li> <li>◦ Internet Control Message Protocol (ICMP) packets</li> <li>◦ Internet Group Management Protocol (IGMP) packets</li> <li>◦ Up to 1018 rules</li> </ul> </li> </ul>
<b>Availability</b>	
<b>Link aggregation</b>	<ul style="list-style-type: none"> <li>• Link aggregation using IEEE 802.3ad Link Aggregation Control Protocol (LACP)</li> <li>• Up to 8 ports in up to 8 groups</li> </ul>
<b>Storm control</b>	Broadcast and multicast storm protection
<b>DoS prevention</b>	DoS attack prevention
<b>Spanning Tree</b>	IEEE 802.1D Spanning Tree, IEEE 802.1w Rapid Spanning Tree, IEEE 802.1s Multiple Spanning Tree, Fast Linkover
<b>IGMP snooping</b>	IGMP (v1/v2) snooping limits bandwidth-intensive video traffic to only the requestors. Supports 256 multicast groups
<b>Power redundancy</b>	Connection to redundant power supply unit for power redundancy
<b>QoS</b>	
<b>Priority levels</b>	4 hardware queues
<b>Scheduling</b>	Priority queuing and weighted round-robin (WRR)
<b>Class of service</b>	<ul style="list-style-type: none"> <li>• Port based</li> <li>• 802.1p VLAN priority based</li> <li>• IPv4 IP precedence/ToS/DSCP based</li> <li>• DiffServ</li> <li>• Classification and remarking ACLs</li> </ul>
<b>Rate limiting</b>	<ul style="list-style-type: none"> <li>• Ingress policer</li> <li>• Egress rate control</li> </ul>
<b>Standards</b>	
<ul style="list-style-type: none"> <li>• 802.3 10BASE-T Ethernet, 802.3u 100BASE-TX Fast Ethernet</li> <li>• 802.3ab 1000BASE-T Gigabit Ethernet, 802.3z Gigabit Ethernet</li> <li>• 802.3x flow control, 802.3ad LACP, 802.3af Power over Ethernet (PoE)</li> <li>• 802.1d Spanning Tree Protocol (STP)</li> <li>• 802.1Q/p VLAN, 802.1w Rapid STP, 802.1s Multiple STP</li> <li>• 802.1X port access authentication</li> </ul>	
<b>Environmental</b>	
<b>Dimensions W x H x D</b>	17.32 x 14.7 x 1.73 in. (440 x 375 x 44 mm)
<b>Unit weight</b>	9.68 lb (4.39 kg)
<b>Certification</b>	UL (UL 60950), CSA (CSA 22.2), CE Mark, FCC Part 15 (CFR 47) Class A
<b>Operating temperature</b>	32° to 104°F (0 to 40°C)
<b>Storage temperature</b>	-4° to 158°F (-20 to 70°C)
<b>Operating humidity</b>	10% to 90% relative humidity,
<b>Storage humidity</b>	10% to 95% relative humidity, noncondensing
<b>Number of fans</b>	1

<b>Acoustic noise</b>	50 dB max.
<b>Power</b>	100-240V AC, 50-60 Hz, internal, universal; also equipped with redundant power supply connector for external power supply, 48V DC
<b>Power consumption</b>	12V@4.5A (54W)
<b>Package Contents</b>	
<ul style="list-style-type: none"> <li>• Cisco SFE2000 24-Port 10/100 Ethernet Switch</li> <li>• Console cable</li> <li>• AC power cord</li> <li>• Rack-mount kit</li> <li>• Quick installation guide</li> </ul>	
<b>Minimum Requirements</b>	
<ul style="list-style-type: none"> <li>• Web-based utility: web browser (Mozilla Firefox 1.5 or later, Internet Explorer 5.5 or later, Netscape 7.01 or later)</li> <li>• Category 5 Ethernet network cables</li> <li>• Operating system: Windows 2000, XP, or later</li> <li>• Provider support for customer premises equipment (CPE) (software version 1.2 or later)</li> </ul>	
<b>Product Warranty</b>	
5-year limited hardware warranty with return to factory replacement and 90-day limited software warranty	

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This Cisco Small Business product comes with a 5-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to:

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